

COUNTYWIDE TRUNKED RADIO SYSTEM

UPDATE - January, 2002

Charter Member migration to trunking nearly complete

Approximately 95% of trunked radios are now operational and in the hands of charter members. Exceptions to this are some LACS-dispatched agencies, which are still completing their dispatch center conversion transition process, and Village of Elm Grove users, for which specific signal enhancements are being implemented. LACS dispatch is expected to convert to trunked operation in the near future.

Most of the LACS municipalities have already received their programmed radio equipment. Over 150 charter member trainers attended "train the trainer" sessions during 2001 to ensure end-user familiarity with trunked operation.

Advisory Council to meet

Meetings of the Trunked System Advisory Council are anticipated to be held in April, August, and December, 2002. The Council will likely discuss system features, issues, and vote on potential new members to the trunked system. The Council will also provide a forum for information exchange and user questions.

Signal enhancement project progresses

Regulatory approval has been received, and hardware has been ordered to enhance signals to and from the eastern Brookfield and Elm Grove areas. Planned changes include increasing transmit power and increasing antenna signal gain at the Menomonee Falls tower site. While system tests revealed that on a countywide basis the trunked system exceeds design goals, certain low-lying areas of Elm Grove and eastern Brookfield do not meet the signal standards.

The changes, recommended by Evans and Associates consultants, are expected to improve both receive and transmit capabilities in these areas.

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Backup link to Lapham Peak tower site installed

Redundant line routing to enhance system reliability

The installation of a diverse-route T1 data line between the trunked system central site and the Lapham Peak site in Delafield has been completed. The system's sites are each linked and controlled via a T1 line, which routes control signals, diagnostics, and digitized transmit and receive audio between the sites.

The Delafield and Waukesha sites, which are central sites with the highest towers, are considered the system's anchor sites, with the remaining four sites providing "fill-in" coverage to the county's four corner regions. The two anchor sites alone can provide countywide mobile and limited-range portable coverage.

The new line, which is routed between Waukesha and Lapham Peak via a different route from the main line, provides an important backup for the system. Part of the project involved the installation of a second, physically-diverse entrance into the central site to ensure complete redundancy.

Automated backup system

An Automatic Protection Switch system is also being installed to continuously test both the main and standby T1 lines. The switch automatically transfers to the backup line in the event of a disruption in service, and immediately pages technicians should either the main or backup lines fail.

To further enhance overall system reliability, the system administrator is also investigating the possibility of rerouting some of the other existing T1 lines to reduce the possibilities of single points of failure. This would minimize system impact from any single cable cut or failure in the Ameritech network. Ameritech states that their T1 lines have a 99.995% reliability rate. Final testing and installation of the automatic switching system is expected by mid February.